UNITED STATES PATENT AND TRADEMARK OFFICE

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10/772,815	02/05/2004	Shugong Xu	SLA1535	5959

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/772,815	XU, SHUGONG
	Examiner	Art Unit	
	Mohammad A. Siddiqi	2154	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-40</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-40</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02/05/2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance.. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-40 are presented for examination.

Claim Objections

2.   Claim 12 is objected to because of the following informalities:

Typographical error, period after encapsulating claim 12, line 4. Appropriate

correction is required.

Claim Rejections - 35 USC § 101

3.   Independent claims 22, 32 and their dependent claims are rejected

under 35 U.S.C. 101 because the claimed invention is directed to non-

statutory subject matter. The language of the claims raises a question as to

whether the claims are directed merely to an abstract idea that is not tied to

a technological art, environment or machine which would result in a practical

application producing a concrete, useful and tangible result. The various

steps receiver and de-jitter module are software constructs performing

various functionalities. These functionalities do not manipulate any hardware

or tangible entity. Therefore, these software constructs are non statutory

entities as detailed in MPEP 2106.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in

this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5.   Claims 1, 3-12, 14-22, 24-32, and 34-40 are rejected under 35

U.S.C. 102(e) as being anticipated by Ueda et al (US 2004/0190459)

(hereinafter Ueda).

6.   As per claim 1, Ueda discloses a method for receiving an MPEG2

transport stream (TS) in a real-time protocol (RTP)/user datagram protocol

(UDP)/Internet protocol (IP) packet, the method comprising:

receiving an IP packet via an IP network, having a variable

transmission delay (page 1, para #0003; #007);

accessing a timestamp carried in a RTP packet (page 1, para #0003;

#009);

linking the timestamp with a program clock reference (PCR) MPEG2TS

carried in the RTP packet payload (page 1, #009-#0010); and,

using the timestamp to eliminate variable transmission delay jitter,

associated with the PCR MPEG2TS (page 1, para #0003; #009-#0010).

7.   As per claim 3, Ueda discloses accessing a timestamp carried in the

RTP packet includes accessing a RTP timestamp carried in a RTP packet

header (page 5, para #0074).

8.   As per claim 4, Ueda discloses linking the timestamp with a PCR

MPEG2TS carried in the RTP packet payload includes linking the RTP

timestamp with a solitary PCR MPEG2TS carried in the RTP packet payload

(fig 25, page 1, para #0010; page 5, para #0074-#0075) .

9.   As per claim 5, Ueda discloses linking the timestamp with a PCR

MPEG2TS carried in the RTP packet payload includes linking the RTP

timestamp with a PCR MPEG2TS immediately following the RTP packet

header (fig 25, page 1, para #0009-#0010; page 5, para #0074-#0075).

10.   As per claim 6, Ueda discloses accessing an index field in the RTP

packet header (fig 25, page 1, para #0009-#0010; page 5, para #0074-

#0075); and, wherein linking the timestamp with a PCR MPEG2TS carried in

the RTP packet payload includes using the index (504, fig 25) to point to a

PCR MPEG2TS randomly positioned in the RTP packet payload (fig 25, page

1, para #0009-#0010; page 5, para #0074-#0075).

11.   As per claim 7, Ueda discloses accessing an index field in the RTP

packet header includes accessing a timestamp packet index field (504, fig

25, page 1, para #0009-#0010; page 5, para #0074-#0075); and, wherein

linking the timestamp with a PCR MPEG2TS carried in the RTP packet

payload includes using the timestamp packet index to link an RTP timestamp

to a PCR MPEG2TS randomly positioned in the RTP packet payload (fig 25,

page 1, para #0009-#0010; page 5, para #0074-#0075).

12.   As per claim 8, Ueda discloses accessing an index field in the RTP

packet header includes accessing a PCR MPEG2TS index field (504, fig 25,

page 1, para #0009-#0010; page 5, para #0074-#0075); wherein

accessing a timestamp carried in the RTP packet includes accessing a PCR

MPEG2TS timestamp carried in a RTP packet header; and, wherein linking

the timestamp with a PCR MPEG2TS carried in the RTP packet payload

includes using the PCR MPEG2TS index to point to a PCR MPEG2TS randomly

positioned in the RTP packet payload (504, fig 25, page 1, para #0009-

#0010; page 5, para #0074-#0075).

13.   As per claim 9, Ueda discloses accessing a timestamp carried in the

RTP packet includes accessing a local timestamp field in an MPEG2TS delay

compensation data structure(504, fig 25, page 1, para #0009-#0010; page

5, para #0074-#0075), where the MPEG2TS delay compensation data

structure is carried in the RTP packet payload and includes the local

timestamp and a corresponding PCR MPEG2TS (page 1, para#0003; para

#0009-#0010; page 5, para #0074-#0075); and, wherein linking the

timestamp with a PCR MPEG2TS carried in the RTP packet includes linking

the local timestamp to the corresponding PCR MPEG2TS in the MPEG2TS

delay compensation data structure (page 1, para#0003; para #0009-

#0010; page 5, para #0074-#0075).

14.   As per claim 10, Ueda discloses accessing a local timestamp field in an

MPEG2TS delay compensation data structure includes accessing a local

timestamp field in each of a plurality of MPEG2TS delay compensation data

structures carried in the RTP packet payload (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075), where the MPEG2TS delay compensation data structures include an MPEG2TS selected from the group including PCR and non-PCR MPEG2TSs (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075); wherein linking the timestamp with a PCR MPEG2TS carried in the RTP packet payload additionally includes linking local timestamps with corresponding non-PCR MPEG2TSs; and, wherein using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS, additionally includes using the local timestamps to eliminate jitter associated with corresponding non-PCR MPEG2TSs (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075).

15.   As per claim 11, Ueda discloses using the timestamp to eliminate variable transmission delay jitter, associated with the PCR MPEG2TS, includes using the timestamp to determine the target transmission time of the PCR MPEG2TS (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075).

16.   As per claim 12, Ueda discloses a method for transmitting an MPEG2 transport stream (TS) in a real-time protocol (RTP)/user datagram protocol

(UDP)/Internet protocol (IP) packet, the method comprising: encapsulating a program clock reference (PCR) MPEG2TS in the RTP packet payload (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075); encapsulating a timestamp in a RTP packet, referencing the PCR MPEG2TS target transmission time; encapsulating the RTP packet in an IP packet (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075); and, transmitting the IP packet via an IP network (page 1, para#0003; para #0009-#0010; page 5, para #0074-#0075).

17. As per claim 14, Ueda discloses encapsulating a timestamp in a RTP packet includes encapsulating an RTP timestamp in the RTP packet header (page 5, para #0074).

18. As per claim 15, Ueda discloses encapsulating a PCR MPEG2TS in the RTP packet payload includes encapsulating a solitary PCR MPEG2TS in the RTP packet payload (fig 25, page 1, para #0009-#0010; page 5, para #0074-#0075).

19. As per claim 16, Ueda discloses encapsulating a PCR MPEG2TS in the RTP packet payload includes encapsulating the PCR MPEG2TS in the RTP packet payload, immediately following the RTP header (fig 25, page 1, para

#0009-#0010; page 5, para #0074-#0075).

20.   As per claim 17, Ueda discloses encapsulating a PCR MPEG2TS in the RTP packet payload includes encapsulating a PCR MPEG2TS randomly positioned in the RTP packet payload (page 1, para #0009-#0010; page 5, para #0074-#0075; page 9, para#0122-#0123); and, the method further comprising: encapsulating an index in the RTP packet header pointing to the position of the MPEG2TS in the RTP packet payload (page 1, para #0009-#0010; page 5, para #0074-#0075; page 9, para#0122-#0123).

21.   As per claim 18, Ueda discloses encapsulating a timestamp in a RTP packet includes encapsulating an RTP timestamp in the RTP packet header (page 1, para #0009-#0010; page 5, para #0074-#0075; page 9, para#0122-#0123); and, wherein encapsulating an index in the RTP packet header includes encapsulating a timestamp packet index in the RTP packet header (page 1, para #0009-#0010; page 5, para #0074-#0075; page 9, para#0122-#0123).

22.   As per claim 19, Ueda discloses encapsulating a timestamp in the RTP packet includes encapsulating a PCR MPEG2TS timestamp (page 1, para #0009-#0010; page 5, para #0074-#0075; page 9, para#0122-#0123);

and, wherein encapsulating an index in the RTP packet header includes

encapsulating a PCR MPEG2TS index field in the RTP packet header (page 1,

para #0009-#0010; page 5, para #0074-#0075; page 9, para#0122-

#0123).

23.   As per claim 20, Ueda discloses encapsulating a PCR MPEG2TS in the

RTP packet payload includes encapsulating the PCR MPEG2TS in an

MPEG2TS delay compensation structure, carried in the RTP packet payload

(page 1, para #0009-#0010; page 5, para #0074-#0075; page 9,

para#0122-#0123); and, wherein encapsulating a timestamp in the RTP

packet includes encapsulating a local timestamp in the MPEG2TS delay

compensation data structure, referencing the co-encapsulated PCR MPEG2TS

(page 1, para #0009-#0010; page 5, para #0074-#0075; page 9,

para#0122-#0123).

24.   As per claim 21, Ueda discloses encapsulating the PCR MPEG2TS in an

MPEG2TS delay compensation structure includes encapsulating a plurality of

MPEG2TSs, selected from the group including PCR MPEG2TSs and a non-PCR

MPEG2TSs, in a corresponding plurality of MPEG2TS delay compensation

structures (page 1, para #0009-#0010; page 5, para #0074-#0075; page

9, para#0122-#0123); and, wherein encapsulating a local timestamp field in

the MPEG2TS delay compensation data structure includes encapsulating a

local timestamp field in each MPEG2TS delay compensation structure,

referencing a co-encapsulated MPEG2TS (page 1, para #0009-#0010; page

5, para #0074-#0075; page 9, para#0122-#0123).

25.   As per claims 22, 24-31, claims are rejected for the same reasons as

claims 1, and 3-11 above.

26.   As per claims 32, 34-40, claims are rejected for the same reasons as

claims 12, and 14-21 above.

Claim Rejections - 35 USC § 103

27.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis

for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a
> whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

28.   Claims 2, 13, 23 and 33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ueda et al (US 2004/0190459) (hereinafter Ueda) in view

of Ando et. al. (7,274,863) (hereinafter Ando).

29.   As per claims 2, 13, 23, and 33 Although Ueda shows transmitting and

receiving MPEG2 transport stream using real time protocol, further discloses

RTP timestamp included in the RTP header. Ueda does not explicitly disclose

accessing the timestamp carried in the RTP packet includes accessing a

timestamp having a resolution of greater than 500 nanoseconds (ns); and,

wherein using the timestamp to eliminate variable transmission delay jitter,

associated with the PCR MPEG2TS, includes reducing the jitter to less than

500 ns. However, accessing the timestamp carried in the RTP packet

includes accessing a timestamp having a resolution of greater than 500

nanoseconds would be the obvious modification to system taught by Ueda.

For example, Ando discloses accessing the timestamp carried in the RTP

packet includes accessing a timestamp having a resolution of greater than

500 nanoseconds (ns) (col 1, lines 33-43); and, wherein using the

timestamp to eliminate variable transmission delay jitter, associated with the

PCR MPEG2TS, includes reducing the jitter to less than 500 ns (col 1, lines

33-43). It would have been an obvious modification to the system disclosed

by Ueda to include the teachings of Ando to synchronize the RTP timestamp

to the value stored in the TS packet.

Conclusion
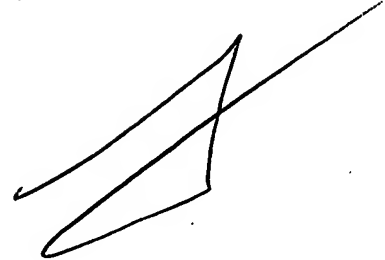
30.   The prior art made of record and not relied upon is considered

pertinent to applicant's disclosure:

U.S. Patent 6,904,095

U.S. Patent 6,542,504

US Pub 2005/0071876

31.   Any inquiry concerning this communication or earlier communications

from the examiner should be directed to Mohammad A. Siddiqi whose

telephone number is (571) 272-3976. The examiner can normally be

reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915.

The fax phone number for the organization where this application or

proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained

from the Patent Application Information Retrieval (PAIR) system. Status

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(EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-

1000.

MAS